

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|--------|--|---|------------------|---------|---------------------|
| L1 | 57 | (friction or inertia\$1) near (weld\$3 or bond\$3) same2 (piezo\$1electric\$3 or piezo\$1actuator) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/11/05 10:24 |
| L2 | 3 | "6299051" | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/11/05 10:32 |
| L3 | 22 | ("3738560" "4157932" "4881997" "5144747" "5681757" "5699950" "5786271" "5816476" "5884835" "5969461" "6051093" "6078125" "6153034" "6193136" "6220503" "6299051" "6311888").PN. OR ("6299051" "6467670").URPN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/11/05 10:33 |
| S1 | 2 | "20060231593" | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2007/11/19 08:34 |
| S2 | 33 | ((ERWIN) near2 (BAYER)).INV. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2007/11/19 08:36 |
| S3 | 1 | ((BORIS) near2 (GROHMANN)).INV. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2007/11/19 08:36 |
| S4 | 10 | ((FRANK) near2 (HERMLE)).INV. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2007/11/19 08:36 |
| S5 | 22 | ((PETER) near2 (JAENKER)).INV. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2007/11/19 08:39 |
| S6 | 795 | piezoactuator | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2007/11/19 11:18 |
| S7 | 8714 | friction near weld\$4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2007/11/19 11:18 |
| S8 | 1 | S6 and S7 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2007/11/19 11:18 |
| S9 | 903154 | weld\$4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2007/11/19 11:18 |

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| S10 | 72 | S6 and S9 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2007/11/19 11:18 |
| S11 | 197 | (bayer or grohmann or Weg or Jaenker).inv. and (piezoactuator or actuator) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/01/31 13:09 |
| S12 | 197 | (bayer or grohmann or Weg or Jaenker).inv. and (piezoactuator or piezoelectric actuator or actuator) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/01/31 13:10 |
| S13 | 1675 | (friction or vibrat\$4) near2 (weld\$4 or bond\$4 or fus\$4 or join\$4) same (piezo\$) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/01/31 13:21 |
| S14 | 24586 | (weld\$4 or bond\$4 or fus\$4) same piezo\$ | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/05 08:46 |
| S15 | 11188 | S14 and (friction or vibrat\$4) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/05 08:46 |
| S16 | 5948 | S14 same (friction or vibrat \$4) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/05 08:46 |
| S17 | 1088 | (friction or vibrat\$4 or ultrasonic) near2 (weld\$4 or bond\$4 or fus\$4) same (actuator or vibrat\$4 near control\$4) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/05 10:15 |
| S18 | 34 | ("20020125297" "20020168466" "5031288" "5248077" "5302414" "5366344" "5460317" "5469617" "5486262" "5682677" "5697544" "5718366" "5718863" "5769306" "5794835" "5813593" "5865364" "5971247" "5975406" "6050474" "6068178" "6070784" "6095402" "6102272" "6106233" "6168066" "6173880" "6216765" "6244495" "6257309" "6524072" "6669447" "6779708" "6910616").PN. OR ("7225967").URPN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 10:31 |

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| S19 | 27 | friction near (weld\$4 or bond\$4) same (control\$4 near (vibrat\$4 or move or movement or moving)) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 12:48 |
| S21 | 39 | (friction or inertia\$1) near (weld\$4 or bond\$4) same (control\$4 near2 (vibrat\$4 or move or movement or moving)) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 12:50 |
| S22 | 270 | (friction or inertia\$1) near (weld\$4 or bond\$4) same (control\$4 same (vibrat\$4 or move or movement or moving)) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 12:55 |
| S23 | 137 | (friction or inertia\$1) near (weld\$4 or bond\$4) same (control\$4 with (vibrat\$4 or move or movement or moving)) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 13:06 |
| S24 | 10 | ("3564703" "3732613" "3860468" "4470868" "5237892" "5697545" "6029727" "6105849" "6357506").PN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 13:10 |
| S25 | 55 | (oscilla\$4) near (weld\$4 or bond\$4) same (control\$4 with (vibrat\$4 or move or movement or moving)) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 14:04 |
| S26 | 14 | (friction or inertia\$1 or oscillat\$4) near2 (weld\$4 or bond\$4) same (piezo\$ near3 actuat\$4) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 14:09 |
| S27 | 197 | (friction or inertia\$1 or oscillat\$4) near2 (weld\$4 or bond\$4) same (piezo\$) | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/05 14:11 |
| S28 | 607 | ultrasonic\$4 near2 (weld\$4 or bond\$4 or fus\$4) same (piezo\$) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/06 12:30 |
| S29 | 10 | ("20020033652" "20020043894" "20020154450" "20030002126" "6327120" "6538854" "6597541" "6653761" "6817073" "7006334").PN. OR ("7215068").URPN. | US-PGPUB; USPAT; USOCR | ADJ | ON | 2008/02/06 12:35 |
| S30 | 15 | ultrasonic\$4 near2 (weld\$4 or bond\$4 or fus\$4) same (piezo\$) near2 actuat\$4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/06 13:11 |

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| S31 | 76296 | (friction or vibrat\$4 or ultrasonic\$4) near2 (weld\$4 or bond\$4 or fus\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 15:52 |
| S32 | 1102 | S31 and (piezo\$) with (\$3stress\$4 or forc\$4 or compress\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 15:53 |
| S33 | 151 | S31 same (piezo\$) with (\$3stress\$4 or forc\$4 or compress\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 15:56 |
| S34 | 29662 | piezo\$ near2 actuator | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 16:20 |
| S35 | 289 | S34 same (weld\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 16:21 |
| S36 | 1 | "20060231593" and electrical | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 16:31 |
| S37 | 104 | piezo\$1 near2 actuator same electric\$4 near volt\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 16:33 |
| S38 | 747 | piezo\$1 near2 actuator with piezo\$1 near2 element | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 16:38 |
| S39 | 7 | piezo\$1 near2 actuator with piezo\$1 near2 element same (parallel and series) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 16:39 |

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| S40 | 4 | "6299051" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:12 |
| S41 | 1 | "20060231593" and crank | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:34 |
| S42 | 596 | piezo\$1 near2 actuator with forc\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:42 |
| S43 | 1 | piezo\$1 near2 actuator with forc\$4 same weld\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:47 |
| S44 | 7 | piezo\$1 near2 actuator same forc\$4 same weld\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:48 |
| S45 | 298 | piezo\$ with forc\$4 same weld \$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:51 |
| S46 | 26 | piezo\$ with forc\$4 same (friction or vibrat\$4 or ultrasonic) weld\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 17:56 |
| S47 | 27 | piezo\$ with (forc\$4 or compression or compressing or compress) same (friction or vibrat\$4 or ultrasonic) weld \$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 18:09 |
| S48 | 5362 | piezo\$ with (compression or compressing or compress) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 18:10 |

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| S49 | 26 | piezo\$ with (compression or compressing or compress) with weld\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/06 18:10 |
| S50 | 5653 | (piezo\$ near2 (actuator or transducer) with (forc\$4 or compress\$4)) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/07 10:24 |
| S51 | 7 | S50 same (friction or ultrasonic or vibration\$4) weld \$4 | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/07 10:25 |
| S52 | 1386 | (piezo\$ near2 (actuator or transducer) with (compress \$4)) | US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT | ADJ | ON | 2008/02/07 10:27 |
| S53 | 1 | ("2003/0086748").URPN. | USPAT | ADJ | ON | 2008/02/07 10:28 |
| S54 | 50 | ((("20040256439") or ("20050001010") or ("20060060634") or ("20060068621") or ("20060231593") or ("20070080195") or ("20070164074") or ("3595462") or ("4249897") or ("4344365") or ("4358262") or ("4429921") or ("4434679") or ("4458905") or ("4469466") or ("4482421") or ("4514613") or ("4517435") or ("4541327") or ("4581517") or ("4793542") or ("4807725") or ("4820363") or ("4831890") or ("4834233") or ("4850772") or ("4880153") or ("4909425") or ("4922161") or ("4979273") or ("4993150") or ("5276304") or ("5328369") or ("5360157") or ("5364006") or ("5423679") or ("5481931") or ("5503555") or ("5531599") or ("5618141") or ("5696328") or ("5707133") or ("5749728") or ("5947882") or ("5979742") or ("6044769") or ("6068178") or ("6176415") or ("6332306") or ("7290695")).PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2008/02/07 11:00 |

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| S55 | 0 | piezo\$ near2 acutator with pres\$1stress\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 12:24 |
| S56 | 0 | piezo\$ near2 acutator same pres\$1stress\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 12:24 |
| S57 | 0 | piezo\$ near2 acutator same pre\$1stress\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 12:24 |
| S58 | 336 | piezo\$ near2 actuator same pre\$1stress\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 12:24 |
| S59 | 229 | piezo\$ near2 actuator with pre\$1stress\$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 12:25 |
| S60 | 5 | piezo\$ near2 actuator with (forc\$4 down or hold down or compress\$4 down) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 13:24 |
| S61 | 0 | piezo\$ near2 actuator with (forc\$4 or hold\$4 or compress \$4) with (ultrasonic\$4 or friction or vibration\$4) weld \$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 13:27 |
| S62 | 0 | piezo\$ near2 actuator with (forc\$4 or hold\$4 or compress \$4) same (ultrasonic\$4 or friction or vibration\$4) weld \$4 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 13:35 |
| S63 | 111 | piezo\$ near2 actuator with (compress\$4 near forc\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 14:18 |

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| S64 | 4 | (ultrasonic) weld\$4 with (compression force) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 14:38 |
| S65 | 613 | (ultrasonic) weld\$4 with (compress\$4) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 14:39 |
| S66 | 53 | (ultrasonic) weld\$4 with (hold \$4 near down) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 14:39 |
| S67 | 6 | (ultrasonic) weld\$4 with (forc \$4 near2 down) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 14:43 |
| S68 | 987 | (310/311).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2008/02/07 16:05 |
| S69 | 136 | S68 and (piezo\$ near2 actuator and piezo\$ near2 element) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:07 |
| S70 | 27 | S69 and (parallel and series) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:07 |
| S71 | 257 | 310/323.01 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:24 |
| S72 | 247 | (310/323.01).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2008/02/07 16:24 |
| S73 | 48 | S72 and (parallel and series) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:26 |
| S74 | 1002 | (331/116r).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2008/02/07 16:27 |

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| S75 | 487 | S74 and (parallel and series) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:28 |
| S76 | 289 | S74 and (piezo\$ and element) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:28 |
| S77 | 205 | S75 and (piezo\$ and element) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | ADJ | ON | 2008/02/07 16:28 |
| S78 | 1508 | (228/110.1,262,1.1).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2008/02/07 16:33 |
| S79 | 853 | (228/112.1,2.1).CCLS. | US-PGPUB; USPAT; USOCR | OR | OFF | 2008/02/07 16:33 |

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